

## *Nanomysis philippinensis*, a new species (Crustacea: Mysidacea) from brackish waters of the Philippines

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*Abstract.*—A new species, *Nanomysis philippinensis*, is described based on specimens from the Philippines. *N. philippinensis* is easily distinguished from the two known species of the genus, *N. siamensis* and *N. insularis*, by the numbers of setae on the first segment of the exopods of the male third and fourth pleopods, the shape and the marginal spine number of the telson, and the size of body.

Specimens of a new species of *Nanomysis* were found in plankton samples collected with a scoop net at a cove in Panay Island, the Philippines and in those stored at the Southeastern Asian Fisheries Development Center (SEAFDEC) in Iloilo of the same island. In this paper, the description of the new species is given. The type specimens are deposited in the National Science Museum, Tokyo (NSMT).

Genus *Nanomysis* Tattersall, 1921

*Nanomysis* Tattersall, 1921: 408–409.—Ii, 1964: 426.

*Diagnosis.*—Carapace fringed with spinules on anterior margin.

First, second and fifth pleopods of male rudimentary, unjointed and of the same form as those in female. Third pleopod of male biramous with unjointed inner ramous and 3-jointed outer ramous; outer ramous longer than inner, third joint terminating in single strong seta. Fourth pleopod of male biramous; inner ramous unjointed; outer ramous very long, 4-jointed, penultimate joint with long seta, ultimate joint short, terminating in 2 long, slender setae.

Antennal scale narrowly lanceolate, 2-jointed, setose along entire margin, with apical part narrow but not pointed.

Carpopropodus of endopods of third to eighth thoracic limbs 3- or 4-jointed.

Endopod of uropod without spines on inner margin.

Telson short; posterior margin convex, straight or concave, not split, armed with a comb of spines between last lateral spines; lateral margins armed with spines.

*Type species.*—*Nanomysis siamensis* Tattersall, 1921.

*Remarks.*—The original diagnosis of the genus was given by Tattersall (1921) when the genus was established for *Nanomysis siamensis* and amended by Ii (1964) who took into account the description of the second species, *Nanomysis insularis*, described by Nouvel (1957). With the addition of the present new species, the generic diagnosis is modified again as mentioned above. Modifications are made in three points, the addition of character in the anterior margin of the carapace, the number of subsegments in the carpopropodus of thoracic endopods, and the shape of the posterior margin of the telson.

*Nanomysis philippinensis*, new species  
Figs. 1, 2

*Type material.*—Holotype (NSMT-Cr 11912), adult female with embryos, 3.2 mm; allotype (NSMT-Cr 11913), adult

male, 2.6 mm; paratypes (NSMT-Cr 11914), 5 adult females with embryos (2.8–3.0 mm) and 8 adult males (2.1–3.0 mm); Batan Bay, Panay Island, Philippines, 1 Dec 1979 collected with scoop net above eel grass bed at depth of about 1 m.

*Other material.*—Two adult females with embryos (3.0, 3.1 mm), 7 adult males (2.2–2.9 mm) and 1 immature male, Hamtik, Panay Is., 5 Apr 1976, 5 m deep, CM net (75 cm in diameter, 0.49 mm in mesh size); 2 immature females and 1 juvenile, off Negros Occidental School of Fisheries, Negros Is., Philippines, 28 Jun 1976, plankton net tow, 1 juvenile (1.4 mm), Oton Beach, Panay Is., 25 Aug 1976, plankton net tow; 10 immature females (up to 2.5 mm) and 4 immature males (up to 1.9 mm), same as type specimens; 3 adult females (2 with embryos) (2.9–3.2 mm), 11 adult males (2.2–2.8 mm), 11 immature females (up to 2.8 mm) and 3 immature males, mouth of Altavas River, Banga Cove, Batan, Panay Is., 2 Dec 1979.

*Body length.*—Adult female 2.8–3.2 mm, adult male 2.1–2.9 mm.

*Description.*—Carapace slightly produced into broadly rounded rostrum, frontal margin fringed with about 60 tiny spinules throughout (Fig. 1B); anterolateral corners rounded; posterior margin emarginate, leaving last thoracic somite exposed (Fig. 1A).

Eye large; cornea globular, slightly broader than eyestalk; eyestalk without papilliform process (Fig. 1B).

Antennular peduncle of female: first segment as long as following 2 segments together, armed at outer distal corner with several setae, one of which is plumose, longer and directed backward; second segment connecting obliquely with third segment, with single plumose seta at median distal corner; third segment with plumose seta at median distal corner (Fig. 1A, C). Antennular peduncle of male: more robust than that of female, first segment as long as third, third segment with processus masculinus small (Fig. 1B).

Antennal scale slender, lanceolate, ex-

tending beyond distal margin of antennular peduncle for  $\frac{1}{3}$  of its length in female and  $\frac{1}{4}$  in male, 5 times as long as greatest width, setose all round, distal suture marked off at distal  $\frac{2}{9}$ , distal segment more than 3 times as long as broad (Fig. 1D). Antennal peduncle more than half as long as scale, second segment longest, occupying about half of peduncle length (Fig. 1D). Antennal sympod with strong spinelike process at outer distal corner (Fig. 1D).

Mandibular palp relatively small, sparsely setose, second segment armed on external margin with 7 setae of which distal one differs slightly in shape from others, third segment about half as long as second, armed with 8 barbed setae arranged regularly on distal  $\frac{2}{3}$  of external margin (Fig. 1E). Coxa of mandibles as shown in Fig. 1F. Maxillule: outer lobe armed with 9 strong spines on distal margin and 3 thick setae on inner surface; inner lobe armed with 3 stout and one slender setae on apex, 2 setae on inner margin and 3 setae on outer margin (Fig. 1G). Maxilla: exopod small and slender, 3 times as long as broad, with only 2 setae, one at apex plumose, long and thick, the other on subapex of outer margin short, margin of exopod fringed with fine hairs; terminal segment of endopod oval, 1.2 times longer than broad (Fig. 1H).

Endopod of first thoracopod robust; endite of basis large, armed with 4 to 5 thick and hairy setae on inner margin and apex; preischium with 3 to 4 similar setae on inner margin (Fig. 1I). Endopod of second thoracopod robust; ischium fused with preischium, merus equal to combined length of carpopropodus and dactylus, carpopropodus becoming broader distally, twice as long as maximum breadth at distal end; dactylus broader than long, bearing 5 strong barbed setae in addition to slender setae (Fig. 1J). Endopods of third to eighth thoracic limbs becoming more slender towards posterior pairs; dactylus small, half length of slender terminal claw; in third to seventh pairs carpopropodus divided into 3 subjoints of which the middle is shortest

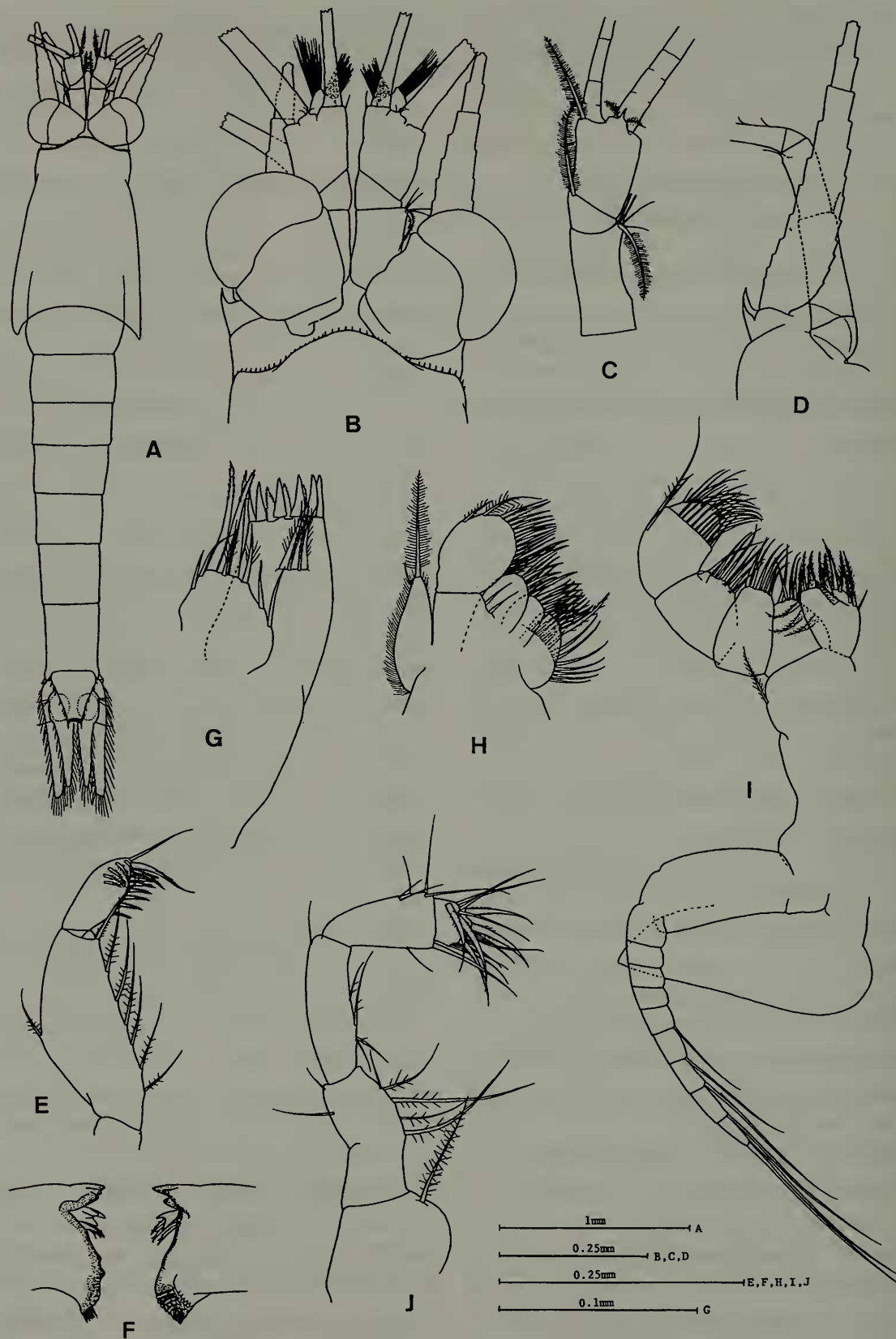


Fig. 1. *Nanomysis philippinensis*, new species. A, C–J, holotype (female); B, allotype (male). A, whole body, dorsal; B, anterior end, dorsal; C, antennular peduncle; D, antenna; E, mandibular palp; F, laciniae and molar parts of mandibles; G, maxillule; H, maxilla; I, first thoracic limb; J, endopod of second thoracic limb.



(Fig. 2A–C); in eighth thoracopod, carpopodius divided into 4 subjoints, armed with strong antler-shaped spine at middle and distal end of outer margin of first subjoint and at outer distal end of second and third subjoints (Fig. 2D). Exopods of thoracic appendages 9-jointed in first to seventh pairs (Fig. 1I, Fig. 2A–C) and 8-jointed in eighth; basal plate with outer distal corner rounded.

Abdominal somites without furrows or spines, last somite slightly longer than preceding one, 1.3 times as long as broad (Fig. 1A).

Third and fourth pleopods of male modified. Third pair extending backwards beyond middle of sixth abdominal somite, biramous; endopod unsegmented and short; exopod 3-jointed: first joint somewhat curved outwardly much longer than second and third joints combined, armed with a small thin seta at outer distal corner, second joint 4 times as long as broad, armed with a small thin seta at outer distal corner, third joint  $\frac{2}{3}$  as long as second, terminating into long, stout, naked seta which is more than twice as long as joint (Fig. 2E). Fourth pair biramous; endopod unsegmented and short; exopod elongate, extending posteriorly near distal end of telson, 4-jointed: first joint longest, 2.5 times longer than endopod, furnished with 5 short setae regularly spaced on distal  $\frac{3}{5}$  of outer margin, second joint slightly shorter than first, unarmed, third joint slightly shorter than second, armed at outer distal corner with stout seta which is 1.5 times as long as joint and extending beyond tip of terminal setae, terminal joint short, armed on apex with 2 setae being equal in length but different in structure, one 2-jointed indistinctly near base, basal joint swollen (Fig. 2F).

Uropod setose along entire margin; endopod more than twice as long as telson, tapered, without spines on inner ventral margin; exopod slightly longer than endopod, with straight outer margin (Fig. 1A).

Telson short, trapezoid, 0.7 as long as last abdominal somite, 1.2 times longer than maximum width, posterior margin about  $\frac{1}{3}$  of maximum width at base, concave or straight, armed with long spine at each corner between which 5 to 10 short, slender spines are inserted, average number of distal inserted spines is 6.5 in male ( $n = 6$ ) and 7.2 in female ( $n = 5$ ); lateral margin straight or slightly concave, armed with 5–9 short spines along entire length (Fig. 2G).

*Etymology*.—The species is named after the locality in which it was collected.

*Remarks*.—The present specimens belong clearly to the genus *Nanomysis*, which was established by Tattersall in 1921, in having the carapace with spinules on the anterior margin, the slender antennal scale, 3-segmented exopod of the male third pleopod, 4-segmented exopod of the male fourth pleopod, and the trapezoid telson. *Nanomysis philippinensis*, new species, is clearly different from two known species of *Nanomysis*, *N. siamensis* Tattersall, 1921, and *N. insularis* Nouvel, 1957, as follows. The first segment of the exopod of the male third pleopod is armed with only a single thin seta at the outer distal corner in the new species, while armed on outer margin with 3 and 5 long setae in *N. siamensis* and *N. insularis*, respectively. The first segment of the exopod of the male fourth pleopod is armed with 5 setae on the outer margin in *N. philippinensis*, as against 3 in *N. siamensis* (Tattersall did not describe this character, but illustrated it in plate XV, fig. 10) and 7 setae in *N. insularis*. The posterior margin of the telson is concave or straight and with 5–10 shorter spines between longer spine at each corner in *N. philippinensis*, whereas it is convex and with 12 shorter spines in *N. siamensis* and 15 in *N. insularis*. The number of spines arming the lateral margin of the telson is 5–9 in *N. philippinensis* as against 10 in *N. siamensis* and 11–12 in *N. insularis*. The present new species is considerably smaller (2.8–3.2 mm in the adult



Fig. 2. *Nanomysis philippinensis*, new species. A-D, G, holotype (female); E, F, allotype (male). A, third thoracic limb; B, sixth thoracic limb; C, seventh thoracic limb; D, extremity of endopod of eighth thoracic limb; E, third pleopod (seta of first and second joint closely appressed to following segment); F, fourth pleopod; G, telson.

female, 2.1–2.9 mm in the adult male) than the two known species (5 mm in the adult male of *N. siamensis* and 4.5 mm in *N. insularis*).

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